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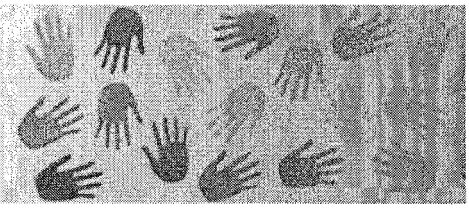
Pierce Protein Research Products



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Comparison of Protein A, G, A/G and L

Characteristics of Immunoglobulin Binding Proteins

Protein A, Protein G, Protein A/G and Protein L are native and recombinant proteins of microbial origin that bind to mammalian immunoglobulin molecules. These proteins are available in purified, salt-free, lyophilized form, as well as coated in microplates and covalently immobilized to various solid supports. The most popular support for affinity applications involving immunoglobulin proteins is crosslinked beaded agarose, although UltraLink Biosupport (polyacrylamide) and MagnaBind Magnetic Beads are also available. See product links at the bottom of this page.

General Characteristics of Ig Binding Proteins

	Native Protein A	Recombinant Protein A	Recombinant Protein G	Recombinant Protein A/G	Recombinant Protein L
Native Source	*Staphylo-coccus aureus*	*Staphylo-coccus aureus*	*Strepto-coccus*	N/A	*Peptostrepto-coccus magnus*
Production Source	*S. aureus*	*E. coli*	*E. coli*	*E. coli*	*E. coli*
Molecular Weight	46,700	44,600	21,600	50,460	35,800
Apparent Mass by SDS-PAGE	42 kDa	45 kDa	32 kDa	40-45 kDa	36 kDa
# Binding Sites for Ig	4	4	2	6	4
Albumin Binding Site	No	No	No	No	No
Optimal Binding pH	8.2	8.2	5	5-8.2	7.5
Ig Binding Target	Fc	Fc	Fc	Fc	VL-kappa

The four proteins bind almost exclusively with the IgG class of antibodies, but their binding properties differ among species and subclasses of IgG. Protein A is generally preferred for rabbit, pig, dog and cat IgG. Protein G has better binding capacity for a broader range of mouse and human IgG subclasses (IgG1, IgG2, etc.).

Protein A/G is a recombinant fusion protein that includes the IgG-binding domains of both Protein A and Protein G. Therefore, Protein A/G is ideal for binding the broadest range of IgG subclasses from rabbit, mouse, human and other mammalian samples.